

### **REMARKS**

Applicant respectfully requests reconsideration of this application as amended. Claims 1-29 remain in the application. Claims 1, 4, 6, 11-12, 19-22 and 26 have been amended to more properly define preexisting claim limitations and are supported by the specification. Claims 5, 7-10, 14-18, 24 and 25 have been cancelled without prejudice. Claims 30-35 have been added .

#### ***Restriction Requirement***

Claims 7-10, 14-18, 24 and 25 were withdrawn subject to a restriction requirement under 37 CFR §1.142. Applicant does not concede that claims 7-10, 14-18, 24 and 25 were properly restricted and reserves its rights to file a continuation application containing such claims should Applicant so desire. Nonetheless, Applicant respectfully requests claims 7-10, 14-18, 24 and 25 be cancelled, without prejudice.

#### **Rejections Under 35 U.S.C. § 102(e)**

Claims 1-2 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Application No. 2002/0028021 of Foote et al. ("Foote").

Foote discloses techniques for classifying video frames using statistical models of transform coefficients. (See abstract). Foote further discloses methods for segmenting and classifying video sequences into a pre-defined set of classes. Examples of video classes include close-ups of people, crowd scenes and shots of presentation material such as power point slides. (See page 3, paragraph [0062]).

Applicant respectfully submits that Foote does not disclose each and every element as recited in claim 1. Specifically, Applicant submits that Foote does not disclose “determining a probability of whether a transition effect is present at a sub-section of said video stream,” as claimed. The sections cited in Foote in the office action (page 2, section 3) do not disclose that Foote may determine the probability of a transition effect, such as a dissolve, a fade, or wipe, etc. Rather, Foote, at paragraph [0136], discloses a probability of the feature vector being produced by the image class statistical mode may be computed, but this is not the same as determining the probability of whether *a transition effect* is present at a sub-section of said video stream, as claimed.

Furthermore, neither does Foote disclose “embedding said probability of said transition effect into said sub-section of the video stream.” Foote, at paragraph [0064], does not disclose probabilities or embedding a probability as claimed.

Accordingly, Applicant respectfully submits that Foote does not disclose each and every element as recited in claim 1. Claim 2 is dependent on claim 1, and is patentable, at least for the reasons stated above for claim 1. Note the amendments to claim 1 are made only to place the claim in better form and are not necessitated by the present rejections or any requirement of patentability. Therefore, Applicant respectfully requests the rejection to claims 1 and 2 under 35 USC §102(e) be withdrawn.

### **Rejections Under 35 U.S.C. § 103(a)**

Claims 3, 4, 6, 11-13, 19, 21-23 and 26-29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application No. 2002/0028021 of Foote et al. (“Foote”) in view of U.S. Patent No. 6,072,542 of Wilcox et al. (“Wilcox”).

Foote discloses techniques for classifying video frames using statistical models of transform coefficients. (See abstract). Foote further discloses methods for segmenting and classifying video sequences into a pre-defined set of classes. Examples of video classes include close-ups of people, crowd scenes and shots of presentation material such as power point slides. (See page 3, paragraph [0062]).

Wilcox discloses a system and method that uses a Video Segmenting Hidden Markov Model to identify and classify the temporal partitioning of video sequences into individual segments. The temporal partitioning begins by training the Video Segmenting Hidden Markov Model on selected videos that have been digitized. Training starts with *an operator viewing the video to identify frame numbers corresponding to different states of the video*. Standard algorithms are then used to produce feature values for each frame. Then, a distribution is computed for the feature values for each of the states. The distributions of the feature values are used to distinguish between shots, cuts, gradual transitions and other video states. (See column 2, lines 30-42).

Wilcox further discloses that once trained on a video, the Video Segmenting Hidden Markov Model of this invention can automatically segment any video sequence. The system and methods of this invention temporally segment any video sequences into individual states including shots, cuts, gradual transitions and shots where camera motion occurs. (See column 2, lines 43-48).

As articulated above, claim 1 is patentable over Foote. Wilcox failst to cure the deficiency of Foote, including the failure to disclose or suggest determining a probability of whether a transition effect is present at a sub-section of a video stream. Claims 3, 4 and 6 are dependent (directly or indirectly) on claim 1; and are therefore patentable at least for the reasons stated above for claim 1. Accordingly, Applicant respectfully

submits that combination does not disclose or suggest each and every element as recited in claims 3, 4 and 6. Therefore, Applicant respectfully requests the rejection to claims 3, 4 and 6 under 35 USC §103(a) be withdrawn.

Referring to claim 11, Applicant respectfully submits the combination of Foote and Wilcox does not disclose or suggest each and every element as claim. Specifically, Applicant submits that the combination does not disclose or suggest generating a video sequence comprising a transition sequence, as claimed. Rather, Wilcox discloses that an operator manually identifies frame numbers corresponding to different states of the video. The manual identification of transitions to train a model to identify a transition is a tedious task. Claim 11 recites the automatic generation of a video sequence comprising a transition sequence that is used to train a classifier. Neither Foote or Wilcox, individually or in combination, disclose or suggest, generating a video sequence comprising a transition sequence as claimed.

Accordingly, Applicant respectfully submits the combination does not disclose or suggest each and every element as recited in claim 11. Claims 12 and 13 are dependent (directly or indirectly) on claim 11; and hence are patentable, at least for the reasons stated above for claim 11. Note the amendments to claim 11 are made only to place the claim in better form and are not necessitated by the present rejections or any requirement of patentability. Therefore, Applicant respectfully requests the rejection to claims 12 and 13 under 35 USC §103(a) be withdrawn.

Referring to claim 19, Applicant respectfully submits the combination of Foote and Wilcox does not disclose or suggest each and every element as claim. Specifically, Applicant submits that the combination does not disclose or suggest determining a transition effect probability, said transition effect probability indicating a probability of

whether a transition effect exists within a fixed-sized portion of said re-scaled time series of said frame-based video stream, as claimed. Foote does not disclose or suggest any method of identifying transition effects in video and Wilcox uses a Video Segmenting Hidden Markov Model to segment a video. The combination does not disclose or suggest using scaling on a frame-based video to determine the probability of a transition effect as claimed.

Accordingly, Applicant respectfully submits that combination does not disclose or suggest each and every element as recited in claim 19. Claims 21-23 are dependent (directly or indirectly) on claim 19; and hence are patentable, at least for the reasons stated above for claim 19. Note the amendments to claim 19 are made only to place the claim in better form and are not necessitated by the present rejections or any requirement of patentability. Therefore, Applicant respectfully requests the rejection to claims 19, 21-23 under 35 USC §103(a) be withdrawn.

Referring to claim 26, Applicant respectfully submits the combination of Foote and Wilcox does not disclose or suggest each and every element as claimed. Specifically, Applicant submits that combination does not disclose or suggest generating a video sequence comprising a transition sequence, as claimed. Rather, Wilcox discloses that an operator manually identifies frame numbers corresponding to different states of the video. The manual identification of transitions to train a model to identify a transition is a tedious task. Claim 11 recites the automatic generation of a video sequence comprising a transition sequence that is used to train a classifier. Neither Foote or Wilcox, individually or in combination, disclose or suggest, generating a video sequence comprising a transition sequence as claimed.

Accordingly, Applicant respectfully submits that the combination does not disclose or suggest each and every element as recited in claim 26. Claims 27-29 are dependent (directly or indirectly) on claim 26; and hence are patentable, at least for the reasons stated above for claim 26. Note the amendments to claim 26 are made only to place the claims in better form and are not necessitated by the present rejections or any requirement of patentability. Therefore, Applicant respectfully requests the rejection to claims 26-29 under 35 USC §103(a) be withdrawn.

Claim 5 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application No. 2002/0028021 of Foote et al. ("Foote") in view of U.S. Patent No. 6,335,990 of Chen et al. ("Chen").

Applicant does not concede that claim 5 is unpatentable over Foote, nevertheless, Applicant has cancelled claim 5 without prejudice.

Claim 20 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application No. 2002/0028021 of Foote et al. ("Foote") in view of U.S. Patent No. 6,072,542 of Wilcox et al. ("Wilcox") further in view of U.S. Patent No. 6,335,990 of Chen et al. ("Chen").

As articulated above, claim 19 is patentable over Foote in view of Wilcox. Chen fails to cure the deficiency of Foote in view of Wilcox, including the failure to disclose or suggest determining a transition effect probability, said transition effect probability indicating a probability of whether a transition effect exists within a fixed-sized portion of said re-scaled time series of said frame-based video stream, as claimed. Claim 20 is dependent on claim 19; and therefore is patentable at least for the reasons stated above for claim 19. Accordingly, Applicant respectfully submits that the combination does not

disclose or suggest each and every element as recited in claim 19. Therefore, Applicant respectfully requests the rejection to claim 19 under 35 USC §103(a) be withdrawn.

New claims 30-33

Applicant submits that new claims 30-33 are patentable over the cited art, at least, because the cited arts do not disclose or suggest a system including a transition synthesizer, as claimed.

**CONCLUSION**


Applicant respectfully submits that the rejections have been overcome by the amendments and remarks, and that the pending claims are in condition for allowance. Accordingly, Applicant respectfully requests the rejections be withdrawn and the pending claims be allowed.

If there are any additional charges, please charge Deposit Account No. 02-2666 for any fee deficiency that may be due.

Respectfully submitted,

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